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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/802,144

03/16/2004

Atsushi Nakajima

KOY-28

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EXAMINER

HUFFMAN, JULIAN D

ART UNIT

PAPER NUMBER

2853

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

02/16/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/802,144	NAKAJIMA ET AL.	
	Examiner	Art Unit	
	Julian D. Huffman	2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5-10,12 and 13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5,6 and 8 is/are allowed.
- 6) ☒ Claim(s) 1,3,7,9,10,12 and 13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3, 7, 10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito (U.S. 6,033,137) in view of Togano et al. (JP 59-209148) and Borrell (U.S. 6,585,340 B1).

Ito discloses :

With regards to claim 1, an image recording method comprising:

forming an image by jetting an ink on a recording medium (fig. 1, element 5) from a recording head (9) of an ink jet system (fig. 1);

inputting a type of recording medium to be used for forming the image (column 6, lines 44-63);

selecting a jet condition of the recording head for an image formation from a plurality of jet conditions stored for each type of the recording medium, depending on the type of the recording medium inputted (column 12, lines 49-54);

wherein:

the jet condition comprises a tone curve which is set depending on a type of the recording medium for determining an amount of ink to be jetted for individual colors in response to an input signal (column 6, lines 28-34, column 8, lines 25-33 and fig. 8).

With regards to claim 7, the method of claim 1, wherein the jet condition comprises a limit amount of ink for determining a total amount of ink to be jetted per pixel based on a total input signal (the amount of ink is limited based on a total input signal).

With regards to claim 10, an image recording apparatus (fig. 1) comprising:

a recording head (9) of an ink jet system (fig. 1) for forming an image by jetting ink on a recording medium;

an input section for inputting a type of the recording medium (column 6, lines 44-63);

a storing section for storing a plurality of toner curves as a jet condition for each type of the recording medium (column 12, lines 42-56, fig. 9, memory in element 18);

each of which is set depending on a type of the recording medium for determining an amount of ink to be jetted for individual colors in response to an input signal (column 12, lines 49-54);

a control section which identifies the type of the recording medium to be used based on an input result through the input section, and selects a jet condition corresponding to the type identified, for controlling the recording head (element 18).

With regards to claim 12, the apparatus of claim 10, the storing section stores a plurality of limit amounts of ink to be jetted as the jet condition, each of which is set depending on a type of the recording medium for determining a total amount of

ink to be jetted in response to a total input signal (the amount of ink is limited based on a total input signal).

Ito discloses reducing the output coefficient to reduce the amount of ink deposited (see column 10, lines 15-20)

Ito does not disclose ejecting an ultraviolet curable ink and curing the ink with an ultraviolet-ray.

Ito does not disclose for the case of a recording medium having a low ink absorption or high glossiness, the tone curve having an output coefficient for a highlighted area smaller than that of a case where the recording medium has a high ink absorption or a low glossiness.

Togano et al. discloses ejecting an ultraviolet curable ink and curing it with an ultraviolet-ray (abstract).

Borrell discloses limiting or reducing the amount of ink deposited on glossy medium which does not readily absorb ink (column 3, lines 18-25 and column 4, lines 6-11).

It would have been obvious to one having ordinary skill in the art at the time of the invention to incorporate the ultraviolet ink and ultraviolet-ray of Togano et al. into the invention of Ito for the purpose of providing a high grade image with no image peeling, suitable for an overhead projector.

It would have been obvious to one having ordinary skill in the art at the time of the invention to incorporate the teachings of Borrell into Ito and reduce the output coefficient for glossy media or media with low absorption for the purpose of avoiding excessive amounts of ink on certain media thereby preventing unusable glossy media.

3. Claims 9 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito in view of Togano et al. and Borrell as applied to claims 1, 3, 7, 10 and 12 above and further in view of Hayashi et al. (U.S. 6,234,601 B1).

Ito as modified discloses everything claimed with the exception of identifying the medium type using a gloss sensor.

Hayashi et al. discloses identifying medium type with a gloss sensor (fig. 1, element 51, column 12, lines 26-31).

It would have been obvious to one having ordinary skill in the art at the time of the invention to provide the gloss sensor of Hayashi et al. into the invention of Ito as modified for the purpose of providing a means to automatically identify the paper type.

Response to Arguments

4. Applicant's arguments filed 8 December 2006 have been fully considered but they are not persuasive.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Allowable Subject Matter

5. Claims 5, 6 and 8 are allowed.

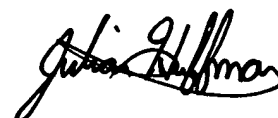
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Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian D. Huffman whose telephone number is (571) 272-2147. The examiner can normally be reached on 10:00a.m.-6:30p.m. Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Julian D. Huffman
Primary Examiner
Art Unit 2853
6 February 2007